

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-12. (Cancelled).

Claim 13. (currently amended): An isolated immunogenic, non-haemolytic *Actinobacillus pleuropneumoniae* ~~*pleuropneumoniae*~~ (*App*) strain comprising a mutation in at least one region of the *apxIA* gene, and optionally a mutation in at least one region of the *apxIIA* gene, wherein each region encodes a transmembrane domain of the *apxIA* gene, and optionally at least one mutation in a transmembrane domain of the *apxIIA* gene, wherein only the A gene is mutated ~~Apx haemolytic and cytolytic exotoxins.~~

Claim 14. (previously presented) The strain of Claim 13, wherein said mutation is a deletion.

Claim 15. (previously presented) The strain of Claim 14, wherein said deletion is in a region of the *apxIA* gene which encodes a second transmembrane domain of the *App* ApxI exotoxin.

Claim 16. (previously presented) The strain of Claim 15, wherein said deletion is of nucleotides 886 to 945 of the *apxIA* gene.

Claim 17. (previously presented) The strain of Claim 16, wherein, said strain additionally comprises a deletion in a region of the *apxIIA* gene which encodes a second transmembrane domain of the *App* ApxII exotoxin.

Claim 18. (withdrawn) The strain of Claim 17, wherein said deletion is of nucleotides 886 to 945 of the *apxIIA* gene.

Claim 19. (currently amended): A vaccine composition against porcine pleuropneumonia comprising an immunogenically effective amount of the *Actinobacillus pleuropneumoniae* strain of ~~any of Claims 13 to 18~~ Claim 13, and a pharmaceutically acceptable carrier, wherein the porcine pleuropneumonia is caused by *Actinobacillus pleuropneumoniae*.

Claim 20. (withdrawn) An immunogenic and non-haemolytic strain of *Actinobacillus pleuropneumonia* having the characteristics of that deposited in the Colección Española de Cultivos Tipo under registration number CECT 5985, or a mutant thereof.

Claim 21. (withdrawn) A vaccine composition against porcine pleuropneumoniae comprising an immunogenically effective amount of the *Actinobacillus pleuropneumoniae* of Claim 20; and a pharmaceutically acceptable carrier.

Claim 22. (withdrawn) An immunogenic and non-haemolytic strain of *Actinobacillus pleuropneumoniae* having the characteristics of that deposited in the Colección Española de Cultivos Tipo under registration number CECT 5994, or a mutant thereof.

Claim 23. (withdrawn) A vaccine composition against porcine pleuropneumonia comprising an immunogenically effective amount of the *Actinobacillus pleuropneumoniae* of Claim 22, and a pharmaceutically acceptable carrier.

Claim 24. (withdrawn) A method for obtaining an immunogenic, non-haemolytic *Actinobacillus pleuropneumoniae* (*App*) strain comprising the steps of:

(A) identifying transmembrane domains of Apx haemolytic and cytolytic exotoxins from a virulent *App* strain; and

(B) introducing a mutation in at least one region of the *apxIA* gene of said strain, and optionally in at least one region of the *apxIIA* gene of said strain, wherein each region encodes a transmembrane domain of the Apx haemolytic and cytolytic exotoxins.

Claim 25. (withdrawn) The method of Claim 24, wherein said mutation is a deletion.

Claim 26. (withdrawn) The method of Claim 25, wherein said deletion is in a region of the *apxIA* gene which encodes a second transmembrane domain of the *App* ApxI exotoxin.

Claim 27. (withdrawn) The method of Claim 26, wherein said deletion is of nucleotides 886 to 945 of the *apxIA* gene.

Claim 28. (withdrawn) The method of Claim 27, wherein said method additionally comprises introducing a deletion in a region of the *apxIIA* gene which encodes a second transmembrane domain of the *App* ApxII exotoxin.

Claim 29. (withdrawn) The method of Claim 28, wherein said deletion is of nucleotides 886 to 945 of the *apxIIA* gene.